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=> d his

     (FILE 'HOME' ENTERED AT 00:10:58 ON 05 JUN 2008)
     FILE 'REGISTRY' ENTERED AT 00:11:46 ON 05 JUN 2008
L1       34 S LUMINOL OR ISOLUMINOL
L2        4 S 521-31-3 OR 3682-14-2 OR 29415-71-2 OR 66612-29-1
L3       13 S L1 NOT (ALUMINUM OR POLYMER OR BENZAZAL? OR AZALUMI? OR
             DIAZALUMI? OR OXATHIALUM?)
             SEL NAME L2
L6        1 S HYDROGEN PEROXIDE/CN
L7        3 S (SODIUM HYDROXIDE OR POTASSIUM HYDROXIDE OR SODIUM CARBONATE)
     FILE 'CA' ENTERED AT 00:29:30 ON 05 JUN 2008
L8     7248 S L5 OR E1-16 (ABEI OR ISOLUMINOL OR LUMINOL OR N-(4-AMINOBUTYL)-
             N-ETHYLISOLUMINOL OR 3-AMINOPHTHALHYDRAZIDE OR 3-AMINOPHTHALIC
             ACID HYDRAZIDE OR 3-AMINOPHTHALIC HYDRAZIDE OR 4-(DIETHYLAMINO)
             PHTHALHYDRAZIDE OR 4-(DIETHYLAMINO)PHTHALIC 1,2-HYDRAZIDE OR 4-
             DIETHYLAMINOPHTHALIC ACID HYDRAZIDE OR 4-LUMINOL OR 5-AMINO-1,4-
             DIHYDROXYPHTHALAZINE OR 5-AMINO-2,3-DIHYDRO-1,4-PHTHALAZINEDIONE
             OR 6-AMINO-2,3-DIHYDRO-1,4-PHTHALAZINEDIONE)
L9  211636 S L6 OR HYDROGEN PEROXIDE OR H2O2 OR HOOH
L10 589737 S L7 OR(SODIUM OR POTASSIUM OR NA OR K)(A)(HYDROXIDE OR OH)OR NAOH
             OR KOH OR NACO3 OR SODIUM CARBONATE
L11 319120 S (BLOOD OR HEMOGLOBIN OR HEMIN OR PEROXIDASE)(5A)(DETECT? OR
             DETERMIN? OR MEASUR? OR MONITOR? OR FIND? OR SEARCH? OR ASSAY? OR
             ANALY? OR SENSE# OR SENSING OR TEST? OR IDENTIF? OR EXAMIN?)
L12  43118 S FORENSIC? OR CRIME OR HUNT?
L13     67 S L8 AND L12
L14   1250 S L8 AND L11
L15   2672 S L8 AND L9
L16    449 S L8 AND L10
L17    207 S L15 AND L16
L18    643 S L14 AND L15-16
L19   1399 S L8(3A)L9-10
L20    306 S L18 AND L19
L21   1761 S L11(3A)(TRACE OR RESIDUE)
L22     12 S L18 AND L21
L23    372 S L18 AND (HEMAGLOBIN OR BLOOD OR HEMIN OR HEMATIN)
L24    176 S L20 AND L23
L25    628 S L8(A)L9-10
L26    137 S L18 AND L25
L27     71 S L18 AND(MM OR MMOL?)
L28    543 S L13,L17,L22,L24,L26-27
L29    400 S L28 AND PY<2003
L30      5 S L28 NOT L29 AND PATENT/DT AND PY<2005
L31    329 S L29 NOT(FLUORESCENCE QUENCHING OR MILK OR OXIDASE OR DOT OR SOL
             GEL)
L32     10 S L29 NOT L31 AND(LUMINOL HYDROGEN OR HEMIN)
L33    318 S L31 NOT(CHLORAMINE OR POLYMORPH? OR OVULAT? OR ENZYM?
             CHEMILUMIN?)
L34    304 S L33 NOT(COSMET? OR FELDSPAR OR HONEYBEE OR ELISA OR COAGULATION
             FACTOR)
L35    319 S L30,L32,L34

=> d bib,ab l35 1-319
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L35 ANSWER 62 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 130:222709 CA
TI Luminosity, my dear Watson, luminosity!-or, are those bloodstains?
AU Burke, Barbara A.; Golestaneh, Kamran; Samson, Helene; Mell, Galen P.
CS Chemistry Department, California State Polytechnic University, Pomona, Pomona, CA, 91768, USA
SO Journal of Chemical Education (1999), 76(1), 65-67
AB Procedures are described which have been used by forensic scientists to detect the presence of latent bloodstains using luminol. This demonstration was developed as part of an ongoing effort to minimize the amt. of hazardous waste generated. Two-reservoir spray bottle using hydrogen peroxide (solution A) and luminol - carbonate buffer (solution B) as the two solutions.

L35 ANSWER 78 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 128:164732 CA
TI Enhanced sanitation control of medical and dental tools by the chemical luminescent indicator luminol
IN Spiekermann, Markus
PA Spiekermann, Markus, Germany
SO Ger. Offen., 6 pp.
PI DE 19633808 A1 19980226 DE 1996-19633808 19960822
PRAI DE 1996-19633808 19960822
AB The invention concerns the enhanced sanitation control of medical and dental tools by checking for blood residues after sterilization and disinfection using the chem. luminescent indicator luminol. The reagent is prepd. from four components before the test and is either sprayed onto the tool or the tool is immersed into the reagent; the luminescent spots will indicate where to proceed with cleaning. Thus the components are aq. sodium hydroxide, a 30% hydrogen peroxide soln., luminol in an alk. aq. soln., and water. Sensitivity of detection can be increased and documentation can be carried out by using a photog. film.

L35 ANSWER 97 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 124:311802 CA
OREF 124:57663a,57666a
TI Chemiluminescent analysis method for quantitating peroxidase
IN Iwata, Masako; Hayashi, Takashi; Yamaki, Mitsuo
PA Hitachi Chemical Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
PI JP 08051997 A 19960227 JP 1994-161638 19940714
PRAI JP 1994-161638 A 19940714
JP 1994-127186 19940609
AB Peroxidase is quant. detd. by anal. using a reagent soln. contg. oxidizing agent, and a reagent soln. contg. chemiluminescent substance and sensitivity-enhancing agent. The chemiluminescent substance is luminol analog, and oxidizing agent is hydrogen peroxide. The method is useful for immunoassay, clin. diagnosis, biochem. anal., DNA probe method, etc. In example, H2O2 soln. and mixt. contg. luminol and 4-[4'-(2'-methyl)thiazolyl]phenol were prepd. and used in immunoassay with peroxidase-labeled anti-endothelin antibody or monoclonal antibody.

L35 ANSWER 189 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 101:143259 CA
OREF 101:21556h,21557a
TI Chemiluminescence sensitization
PA Hitachi, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
PI JP 59077354 A 19840502 JP 1982-187433 19821027
PRAI JP 1982-187433 19821027
AB An improvement in the detection sensitivity of a chemiluminescent substance (e.g. luminol) was obtained by adding phenylalanine to a NaOH soln. contg. luminol, H2O2, and NaOCl.

L35 ANSWER 224 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 90:99681 CA
OREF 90:15709a,15712a
TI Method and apparatus for eliminating luminol interference material
IN Jeffers, Eldon; Thomas, R. R.
PA United States National Aeronautics and Space Administration, USA
SO U. S. Pat. Appl., 31 pp. Avail. NTIS.
PI US 876440 A0 19780623 US 1978-876440 19780209
US 4176007 A 19791127
PRAI US 1978-876440 A 19780209
AB A method and app. are described for removing porphyrins from a fluid sample which are unrelated to the no. of bacteria present in the sample and prior to combining the sample with luminol reagent to produce a light reaction. The method involves a preincubation of the sample with a dil. concn. of H2O2 which inactivates the interfering sol. porphyrins. Further, by delaying taking a light measurement for a predetd. time period after combining the H2O2-treated water sample with a luminol reagent, the luminescence produced by the reaction of the luminol reagent with ions present in the soln., being short lived, will have died out so that only porphyrins within the bacteria which have been released by rupturing the cells with the NaOH in the luminol reagent, will be measured. The measurement thus obtained can then can related to the concn. of live and dead bacteria in the fluid sample.

L35 ANSWER 231 OF 319 CA COPYRIGHT 2008 ACS on STN (102b)
AN 85:30563 CA
OREF 85:4969a,4972a
TI Rapid identification of bacteria using chemiluminescence
IN Witz, Samuel; Hartung, Walter H.
PA Akzona Inc., USA
SO U.S., 6 pp.
PI US 3959081 A 19760525 US 1975-562068 19750326
PRAI US 1975-562068 A 19750326
AB Microorganisms contg. hemoprotein substances with Fe porphyrin prosthetic groups can be specifically identified and differentiated by the characteristic time curves of chemiluminescence emission produced in the presence of luminol and H2O2. Thus, 0.2 ml luminol reagent contg. luminol 0.33, EDTA 5.00, and NaOH 20.00 g/l. and 0.2 ml H2O2 reagent contg. H2O2 0.5% and acetophenetidin 0.0002% (1 mmol/l luminol, 250mmol/l NaOH, 74 mmol/l H2O2) were mixed by injection into a test tube contg. 1 ml of a microbial suspension, and the light output was

monitored by an RCA 1P 21 photomultiplier tube connected to a Tektronic type 541A oscilloscope. Serratia marcescens at 2.6 × 105 cells/ml produced an emission curve with a time to max. luminescence of 8 sec and time to 50% decay of 21-4 sec; values for Escherichia coli at 4.1 × 104 cells/ml were 5 and 13 sec, resp.; for Bacillus cereus at 8-25 × 103 cells/ml the values were 16-24 and >30 sec, resp. Interference by metal ions was not a problem since most metal ions produced emission curves with max. outputs at ≤0.2 sec.

L35 ANSWER 234 OF 319 CA COPYRIGHT 2008 ACS on STN (102b)
AN 83:172240 CA
OREF 83:26967a,26970a

TI Detection of various α-substituted nitriles and gem-halonitroalkanes by chemiluminescence
AU Yurow, Harvey W.; Sass, Samuel
CS Chem. Lab., Edgewood Arsenal, Aberdeen Proving Ground, MD, USA
SO Analytica Chimica Acta (1975), 77, 324-6

AB The nucleophilic reaction of OOH- with α-substituted nitriles and gem-halonitroalkanes in alk. soln. gives a hydroperoxide which oxidizes luminol to a chemiluminescent species, enabling the detection of the nitriles and halonitroalkanes. A 0.2 ml aq. sample (1.0 mg/ml) was introduced into a 1-ml spectrofluorimetric cell. The intensity of chemiluminescent light was measured at 410 nm from the moment when 0.2 ml 0.0025M luminol in 0.20M NaOH and 0.2 ml 0.30% H2O2 in 0.002M Na4L, where H4L = EDTA, were added simultaneously (1.25 mmol/l luminol, 100mmol/l NaOH, 44 mmol/l H2O2). The relative light intensity, cor. for mol. wt. differences, is listed for 17 compds. As the no. of Cl groups in the mol. increases and the no. of NO2 groups decreases, the chemiluminescence intensity decreases while its duration increases.

L35 ANSWER 247 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 78:90496 CA
OREF 78:14422h,14423a
TI Oxidation of luminol by a stabilized solution of hemin
AU Brabec, F.
CS Ustav Fys. Pevnych Latek, Prague, Czech.
SO Collection of Czechoslovak Chemical Communications (1972), 37(5), 1605-6
AB The intensity of light emitted during the reaction of luminol with oxidants can be considerably increased by addn. of metal ions or complexes. The effects of H2O2 and of stabilized hemin in their broader concn. ranges on the chemiluminescence of luminol in a system of 3-aminophthalic acid hydrazide-NaOH-H2O-H2O2-stabilized soln. of hemin was studied. The dependence of radiation emitted during the reaction on the H2O2 concns. was linear for hemin-Cu catalyst at 10-8-10-4M H2O2. At 10-4-10-1M H2O2 the increase of radiation emitted diminished with an increase in H2O2 concn. The optimum concn. of H2O2 was 10-2-10-1M.

L35 ANSWER 253 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 70:104706 CA
OREF 70:19539a,19542a

TI Luminol chemiluminescence in forensic medicine and toxicology. II. Effect of fetal blood on the luminol reaction
AU Weber, Karlo; Palmovic, V.; Spasic, P.; Bastic, J.
CS Inst. Gerichtl. Med., Jugoslav. Akad. Wiss., Zagreb, Yugoslavia
SO Deutsche Zeitschrift fuer die Gesamte Gerichtliche Medizin (1968), 64 (2), 158-64
AB Two modified procedures for the development of luminol (3-aminophthalic hydrazide) chemiluminescence are described which distinguish fetal from adult blood by time-dependent photoelec. recording of the intensity of chemiluminescence. Solns. of both fetal and adult hemoglobin act as activators of the reaction. The method of distinguishing Hb-F from Hb-A with a luminol reagent in the presence of NaOH was statistically highly significant. The specific behavior of fetal blood in the activation of the luminol reaction is correlated with the slow speed of fetal hemoglobin denaturation in the presence of alkali. These tests are a new variant in observations of Hb denaturation using chemiluminescence for detection.

L35 ANSWER 254 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 70:82758 CA
OREF 70:15487a,15490a
TI Chemiluminescence of the system luminol-sodium hydroxide-hydrogen peroxide-ozone
AU Bersis, D. S.; Nikokavouras, J.
CS Nucl. Center "Democritos", Aghia Parakevi, Greece
SO Zeitschrift fuer Physikalische Chemie (Muenchen, Germany) (1968), 62(1-4), 152-8
AB The luminescence of alk. solns. of luminol contg. H2O2 treated with ozone is proportional to the luminol concn., independent of pH, and shows a max. at 10 mg. H2O2/ml.

L35 ANSWER 261 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 67:114271 CA
OREF 67:21523a,21526a
TI Application of chemiluminescence of luminol in judicial medicine and toxicology. I. Detection of block traces
AU Weber, Karlo
CS Inst. Gerichtl. Med. Kriminalistik, Zagreb, Yugoslavia
SO Deutsche Zeitschrift fuer die Gesamte Gerichtliche Medizin (1966), 57, 410-23
From: CZ 1967, (29), Abstr. No. 2077
LA German
AB The blood concn. can be detd. photoelec. by the luminol reaction. Intensity-time curves are set up from which the max. luminescence intensity and the total light can be obtained as a measurement of the blood concn. Blood in traces of dry blood and fresh blood can be detected up to a diln. of 1:107 with a modified reagent. A luminol reagent contg. Na2CO3 instead of NaOH gave a different intensity-time curve with dry blood than with fresh blood. CO-contg. dry blood traces just as fresh blood display only low luminescence intensity.

L35 ANSWER 266 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 64:79709 CA

OREF 64:14966b-c

TI Inhibition of chemiluminescence of luminol by α-amino acids, and the chemiluminescence determination of traces of α-amino acids

AU Ponomarenko, A. A.; Amelina, L. M.

CS Trade Econ. Inst., Lvov

SO Zhurnal Obshchei Khimii (1965), 35(12), 2252-3

LA Russian

AB Amino acids (10-3-10-4M) are detd. by their redn. of the intensity of luminescence of luminol (0.002M in 0.1M NaOH), in the presence of 0.001M CuSO4 in 1% NH4OH and 0.06M H2O2. The chemiluminescence is inhibited in the following descending order: L-histidine, glycine, DL-serine, DL-norvaline, DL-valine, DL-aspartic acid, DL-tryptophan, DL-norleucine, DL-leucine, DL-methionine, DL-α-alanine, L-cysteine, DL-β-alanine, L-lysine, and L-arginine.

L35 ANSWER 269 OF 319 ? CA COPYRIGHT 2008 ACS on STN

AN 62:10515 CA

OREF 62:1960f-g

TI Improved reagent for luminol test

AU Arima, Takashi

CS Prefect. Police Headquarters, Fukushima, Japan

SO Kagaku Keisatsu Kenkyusho Hokoku (1964), 17(1), 9-14

AB The compn. of the new reagent is luminol 0.1 g.(4.2 mmol/l), 10% NaOH 10.0 ml. (185 mmol/l), 3% H2O2 25.0 ml. (163 mmol/l), H2O 100.0 ml. The intensity of luminescence thereby was 7.7- and 2.7-fold higher than that of W. Specht reagent I and II, resp. The self-luminescence of the reagent was negligible and the stability was higher.

L35 ANSWER 272 OF 319 CA COPYRIGHT 2008 ACS on STN

AN 61:36904 CA

OREF 61:6439f-g

TI Catalytic activities of copper-bipyridyl (bip) chelates for the chemiluminescence of Luminol

AU Ojima, Heijiro

CS Aichi Gakugei Univ., Okazaki, Japan

SO Nippon Kagaku Zasshi (1963), 84(11), 909-13

AB Copper(II)-bipyridyl chelates are excellent catalysts for the chemiluminescence of Luminol -H2O2 system in alk. soln. The catalytic activities of the chelates increase in the order [Cu bip]++ > [Cu bip2]++ > [Cu bip3]++. They are the most active at pH 12.0-12.5, and become inactive at pH 13.5, above which these chelates are converted into dihydroxo complexes. Mixed complexes of the approx. compn. Cu(LuO)(OH)bip H2O.1/5 [Cu(OH)(OH2)bip]X (LuO = Luminol anion; X = NO3, Cl, or 1/2 SO4) were isolated from solns. contg. [Cu bip1-3] X2, OH-, and Luminol, the suspensions of which in dil. NaOH or Na2CO3 exhibit strong luminescence by action of H2O2. On the basis of these and related data, the mechanism of the catalytic action was discussed.

L35 ANSWER 285 OF 319 CA COPYRIGHT 2008 ACS on STN

AN 54:66586 CA

OREF 54:12774h-i,12775a

TI The effect of foreign matters on the chemoluminescence of luminol. I. The effect of porphyrin on the luminescence of luminol
AU Dezelic, M.; Mehmedic, M.
CS Univ. Sarajevo, Yugoslavia
SO Bull. soc. chimistes repub. populaire Bosnie et Herzegovine (1958), 7, 55-62

AB The luminescence of mixts. contg. luminol 4 × 10-3, NaOH 4 × 10-1, H2O2 1.76 × 10-1, and K4Fe(CN)6 4 × 10-2 mole/l. was inhibited upon addn. of solns. contg. from 5.4 × 10-7 to 2.1 × 10-5 mole/l. of etioporphyrin, mesoporphyrin dimethyl ester, or 2,3,5,8-tetramethyl-1,4-dipropyl-6,7-dipropionic acid-porphin and from 6.21 × 10-2 to 2.48 × 10-1 mole/l. pyridine. Pyridine alone also had an inhibitive effect.

L35 ANSWER 291 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 50:40946 CA
OREF 50:7932e-h
TI Detection with luminol in paper chromatography
AU Moucka, V.; Parizek, R.
CS Prum. skola chem., Pardubice-Rybitvi, Czech.
SO Chemicke Listy pro Vedu a Prumysl (1956), 50, 312-14
AB Peroxidases prepd. according to Jermyn (C.A. 46, 9138e) were detected by spraying the chromatograms with a soln. contg. in 100 ml. 0.5 g. luminol (I, 28.2 mmol/l), 50 ml. 0.5% NaOH (62.5 mmol/l), 15 ml. 3% H2O2 (13.2 mmol/l), and water. Similarly Fe+++, Bi+++ and Hg++ were detected. Fe+++ and Bi+++ strongly enhance the luminescence, while Hg++ supresses it entirely. The purity of com. prepn. of I was detd. by paper chromatography besides pure 3-aminophthalhydrazide (II) and 3-nitrophthalhydrazide in a solvent system BuOH, AcOH, water (4:1:5) or in cyclohexanol satd. with water and by spraying the dry paper with alk. soln. of hemin and 3% soln. of H2O2. The older method of prepg. pure II (cf. C.A. 28, 1684.6) was improved by suspending 88.5 g. crude II in 100 g. 5% NaOH, pptg. II with AcOH, dissolving the dried product (m. 316°) in 3 l. concd. HCl and refluxing 20 min. with 1% charcoal. Cryst. II.HCl obtained on cooling the filtrate was dissolved in 400 ml. 10% NH4OH under slight warming and the white product was pptd. from the filtrate with 10% AcOH, yielding 44.7 g. pure II m. 324-7° (cor.).

L35 ANSWER 304 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 37:23283 CA
OREF 37:3781c-f
TI The chemical luminescence test for blood. Forensic and clinical applications
AU McGrath, John
SO British Medical Journal (1942), 1942, II, 156-7
AB Forensic and clinical applications of the Specht test (C. A. 31, 3821.3) for the identification of suspected stains are considered. If a mist of a soln. of 3-aminophthalic acid-hydrazide-HCl (I) (either of the 2 following solns. may be used: (a) I 1 g., Na2O2 5 g., distd. water 1000 ml., or (b) I 1 g., Na2CO3 50 g., H2O2 (10 vol.) 50, distd. water 1000

ml.) falls on a stain contg. hematin a marked bluish white luminescence appears which is clearly visible in the dark and can readily be photographed. Very fresh blood stains contg. little hematin show little luminescence; the older the stain the greater the proportion of hematin present and the more marked the light effect. The reaction is specific. There is no reaction with serum, bile, sputum, pus, seminal stains, pleural fluid, feces, earth, fresh or rotting vegetable material, various paints, oils, metals, wood, wax, shoe polish or various other substances. It is not suggested, however, that at present the test be used as a final specific test for blood. The reaction can also be carried out in a test tube or on a slide. If a soln. or suspension contains fresh blood, a few drops of NaOH soln. (about 30%) are first added to form hematin. Warming increases the brilliance of the luminescence but shortens the duration. A clear pos. reaction with blood can be obtained in dilns. over one in a million.

L35 ANSWER 309 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 33:59344 CA
OREF 33:8524h-i
TI Detection of blood by means of chemiluminescence
AU Proescher, Frederick; Moody, A. M.
SO Journal of Laboratory and Clinical Medicine (1939), 24, 1183-9
AB The procedure is described for the detection of traces of blood by the luminescence produced when 3-aminophthalic hydrazide (luminol) in alk. soln. in the presence of small amt. of H2O2 is applied to the specimen. Pos. tests were obtained from blood stains on material which had been exposed to sunlight and air for 3 yrs. It is preferable to transform the hemoglobin in fresh blood into hematin for the test. Hematin can be detected in a diln. of 1:100,000,000.

L35 ANSWER 310 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 33:26158 CA
OREF 33:3697a-i
TI The chemiluminescence of 3-aminophthalhydrazide
AU Stross, Fred H.; Branch, Gerald E. K.
SO Journal of Organic Chemistry (1938), 3, 385-404
AB The intensities, rates of change of intensity, and total light given out from various mixts. of K3Fe(CN)6, H2O2, luminol (I) and NaOH were studied under varying conditions of alky. and concn. by use of the flow method devised by Roughton (cf. Bray and Livingston, C. A. 22, 2869, and Hartridge and Roughton, C. A. 21, 343). The glow was measured with a photoelec. cell (Vistron 75A) connected to a balanced circuit and galvanometer. The exptl. results are tabulated. The results show that I is reduced in steps, and that a 3-step stage of oxidation is reached long after the glow has ceased, but as long as ferricyanide ion is present the oxidation continues, though slowly, and may exceed the 4-unit stage, namely, the formation of 3-aminophthalic acid and N. Contradicting the mechanism suggested by Albrecht (C. A. 23, 4889), in which hydrolyzes to 3-H2NC6H3(CO2H)2 and N2H2, and then reacts with the latter to form I and activate luminescing I, the expts. seem to show that II is present even after the glow has ceased. H2O2 does not have any marked effect on the rate of oxidation of I, but greatly increases the amt. of light emitted from a given amt. of I. Addn. of hydroquinone

to an alk. mixt. of I and H2O2 extinguished the glow, which returned on long standing; similar addn. to an alk. soln. of I and a mixt. of K3Fe(CN)6 and H2O2 produced a faint glow. The former suggests that in quenching the glow the hydroquinone is used up, while in the latter instance it acts on a luminescent step due chiefly to H2O2, but does not protect I from oxidation by K3Fe(CN)6. H2O2 increases the chance of I oxidizing with luminescence; OH and ferricyanide ions decrease it, while the ferrocyanide ion has little or no effect on this chance. More and less luminescent reactions are competing for a product of a preliminary reaction; the following scheme represents the suggested mechanism: The intermediate is a one-unit oxidation product of I, C8H6O2N or its assocd. or ionized form, while the final substance is a 2-unit oxidation product of I, i. e., II or The kinetics of the reactions involved is discussed in detail with derivations of the various rate constants. The constancy of the rate constants from the exptl. data confirms the theory of the above mechanism. The brightness is not quite proportional to the concn. of I and is quenched by inhibitors, which are used up, suggesting a chain reaction. This chain mechanism seems to apply to the after rather than the preliminary reaction. The product of the preliminary one-unit oxidation is a free radical which might well block a luminescent chain mechanism and would be greater with increase in concn. of I. A more complete, though speculative, mechanism is also proposed. A study of the temp. effect indicates that the chance of a I mol. luminescing is increased in cooling. This may be due to the favoring of an after reaction with H2O2 over that with ferricyanide, or to an increase of the chance of an activated mol. losing its energy as light rather than heat.

L35 ANSWER 315 OF 319 CA COPYRIGHT 2008 ACS on STN
AN 31:27540 CA
OREF 31:3821b-d
TI The chemiluminescence of hemin as a means of finding and recognizing blood traces of forensic importance
AU Specht, W.
SO Angew. Chem. (1937), 50, 155-7
AB Many tests showed that old blood traces, especially dried blood, can be detected with ease and reliability by the use of 3-aminophthalic acid hydrazide in a soln. contg. Na2CO3 and H2O2. This soln. can be applied with an atomizer, and the presence of blood traces is indicated by a distinct blue chemiluminescence, which is caused by hematin. The detection is a specific one for blood and the reaction does not take place with: saliva, urine, pus and other body excretion, milk, coffee spots or starch, org. and inorg. dyes, fabrics, leather, skin, fungi, oils, waxes, earth, stone, wood, metals and especially rust, grass, leaves, etc. Photographs of luminescent blood spots are shown.

=> log y
STN INTERNATIONAL LOGOFF AT 01:40:11 ON 05 JUN 2008